

# NETWORK COMPROMISE RECOVERY METHODS AND APPARATUS

## Abstract of the Disclosure

5           A secure communications system (100, FIG. 1) with a compromised  
communications node can quickly recover from the compromised condition by  
sending re-keying messages using a key encryption key hierarchy (200, FIG. 2). Each  
communications node (330, FIG. 3) includes a memory (300, FIG. 3) with a list of  
tier-group specific key encryption keys, and whenever a message arrives that is  
1.0 encrypted with a key encryption key in the list, the communications node decrypts the  
message. When the message includes a new traffic encryption key, the  
communications node has been re-keyed. Key encryption keys are managed  
hierarchically such that many communications nodes can be re-keyed with very few  
broadcast messages, thereby saving communications resources.